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Obituary

Our deepest sympathies to the family and friends of the following member of the Editorial Board who passed away during the past year.

Titus H.J. Huisman, M.D., Ph.D.
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Titus Hendrik Jan Huisman, M.S., Ph.D., D.Sc.

The death of Professor Titus H.J. Huisman on May 31, 1999 marked the end of a half-century era of the study of the inherited diseases of hemoglobin at the protein and gene level. The contributions of Professor Huisman and his colleagues, with those of Hermann Lehmann, Linus Pauling, Max Perutz, David Weatherall, and a few others, are the basis for our present comprehensive knowledge of the hemoglobinopathies and thalassemias throughout the world. Professor Huisman's work included the development of many of the major methods of the field, the analyses of the normal hemoglobins of man and many other species, the identification of hundreds of hemoglobin variants and the continuous codification of the field through the establishment of the major reference laboratory, a journal and definitive review articles and syllabi. For more than two decades he was also an editor of the *American Journal of Hematology*.

Titus Huisman was born on September 1, 1923, in The Netherlands and was trained in chemistry (M.S., 1946; Ph.D., 1948) at Gröningen. During his student days he was also active in the Dutch underground resistance. In 1950 he received the D.Sc. degree in biochemistry at Utrecht. During the 1950s he headed the Biochemical Research Laboratory in the Department of Pediatrics at Gröningen where, in collaboration with Professor J.H.P. Jonxis, he began to study amino acids in diseases of children and, after 1954, in the hemoglobin polypeptides. The later 1950s and the 1960s, began a period of immense productivity for him with the development and application of new chromatographic methods, the identification of sulfhydryl groups, the use of immunological and biosynthetic methods, and the structural and functional characterization of diverse human and animal hemoglobins.

Largely as a result of attending a meeting in Istanbul in 1957, Professor Huisman's attentions also focused on the abnormal human hemoglobins, genetic concepts began to appear in his papers and his extraordinary international collaborations began in earnest. This fertile period led to the identification in 1961, with Professor Betke, of the unstable Zurich hemoglobin as a cause of drug-induced hemolysis. Professor Huisman's first laboratory manual on hemoglobin, written with Professor Jonxis, was published in 1958.

In 1959 Professor Huisman moved to the Medical College of Georgia in Augusta, in part through the intermediary of Dr. Virgil Sydenstricker who had done early studies in sickle cell disease. Professor Huisman remained in Augusta (except for his ceaseless international travel) for the rest of his career, retiring to emeritus status as Regents' Professor of Biochemistry and Professor of Medicine in 1996. In Augusta he had multiple administrative responsibilities, created several research centers, and made the Medical College of Georgia a world center for hemoglobin research.

The list of Professor Huisman's accomplishments during the next four decades—recounted in almost 1,000 publications—is too long even to summarize. Among his contributions were characterization of the heredity persistence of fetal hemoglobin syndromes, analysis of the genetics of γ gene expression, including the existence of two γ gene loci, and the description and characterization of several hundred hemoglobin mutants. His identification of Hemoglobin Kenya was important in establishing the γ–β genetic linkage. Professor Huisman quickly introduced into his work nucleic acid techniques to characterize the thalassemic syndromes and, after the early 1980s, his laboratory was physically and technologically split evenly between DNA and protein methodologies.

During the years in Augusta he continued to develop new methods and to prepare multiple definitive review articles, laboratory manuals, and syllabi of abnormal hemoglobins. During the 1970s he also founded the Inter-

national Hemoglobin Information Center and the journal *Hemoglobin*, both of which he directed for more than twenty years.

During this period Professor Huisman's role as mentor and collaborator continued to flourish. Hundreds of young scientists come to his laboratory for training and many of them have subsequently had distinguished careers throughout the world in the area of hemoglobin diseaes and related topics. Long-term collaborations with many outstanding scientists throughout the United States and the remainder of the world are clearly reflected in the authorships of his publications. Indeed his list of publications includes a large fraction of investigators who contributed to the study of abnormal hemoglobin. (A more compete history of Professor Huisman's career, including international collaborations and his many awards, has recently been published by four of his distinguished, long-term coleagues: Professor Georgi D. Efremov, Professor Alexander E. Felice, Dr. Walter A. Schroeder, and Mrs. Marianne F.H. Carver [Hemoglobin 1999; 23:v–ix].)

No summary of Professor Titus H.J. Huisman's contributions can do justice to the multiple intangible ways in which his presence continued to hold together the field of Human Hemoglobin Variants. His intellect and energy provided a strong centripetal force for almost fifty years and helped make this field to this day one of the most important intersections of biochemistry and medicine.

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